# State Maps and Prescriptive Packages

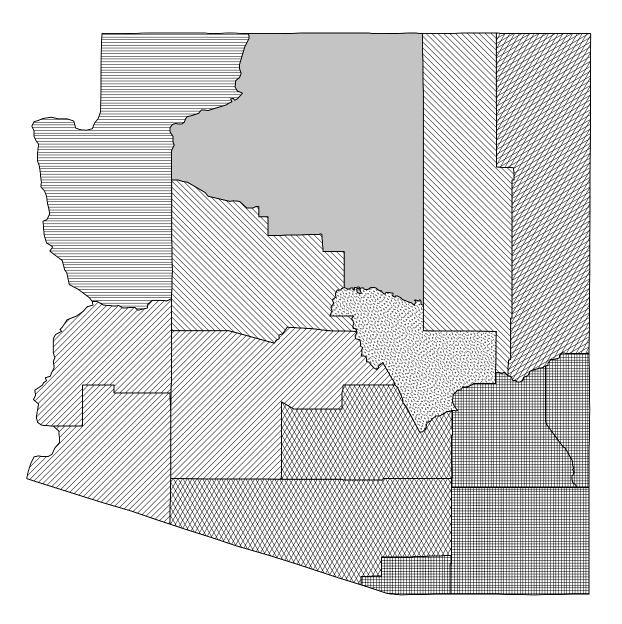
# **April 2000**

The State Maps and Prescriptive Packages contain supporting materials that are needed when using the Envelope and Mechanical Compliance Guides. Insulation and other building envelope requirements and some mechanical system requirements vary by climate. The State Maps divide the United States into 33 different climate zones at a county level. Zones are numbered from 1 through 19 (consistent with the IECC and MEC*check* climate zones) and have a, b, and c designations to reflect climate differences that affect cooling; e.g., cooling degree days and solar radiation. The climate maps are unchanged from Version 1.

To determine the climate zone to use with your building, locate the map for your state and identify the zone number from the legend or county list.

To determine insulation and other building envelope requirements, find the prescriptive package number corresponding to your climate zone. The *Envelope Compliance Guide* employs a package approach that requires all components in your design to meet or exceed the prescribed efficiency levels contained in the prescriptive package. If you find the prescriptive packages too constraining, consider using the COM *check-EZ* software, which allows tradeoffs among building envelope components.

# **ARIZONA**



Zone County

13B Apache 6B Cochise 14A Coconino

8 Gila 6B Graham 6B Greenlee

3C La Paz 3C Maricopa 7B Mohave 10B Navajo 4B Pima 4B Pinal

6B Santa Cruz 10B Yavapai 3C Yuma

///// Zone 3C Zone 4B Zone 6B Zone 7B Zone 8 Zone 10B

Zone 13B

Zone 14A

#### Climate Zone 3c

Envelope Component		enestration Window-Wall			ım Fenestratio			Fenestration		Very High Fenestration Area (40%-50% Window-Wall Ratio)			
	No	Metal	Wood	No	Metal	Wood	No	Metal	Wood	No	Metal	Wood	
Walls (a)	Framing or	Framing	or Framing	Framing 6		or Framing	Framing o	or Framing	or Framing	Framing	or Framing	or Framing	
Framed Minimum R-Value Any Spacing	NA	0	0	NA	11	0	NA	11	11	NA	11	11	
CMU, 8 in. or greater Minimum R-Value with Integral Insulation(b)	0	0	0	0	0	0	0	0	0	0	0	0	
All Other Minimum R-Value Masonry Walls(c)	0	0	0	0	0	0	5	11	11	5	11	11	
Windows	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	
Maximum Solar Heat Gain Coefficient	Any	Any	Any	0.5	0.6	0.7	0.4	0.5	0.6	0.4	0.5	0.6	
Maximum U-Factor	Any	Any	Any	Any	Any	Any	0.7	0.7	0.7	0.7	0.7	0.7	
Skylight (Limit 3% of Roof Area)													
Maximum U-Factor		1			1			1			1		
Roof	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	
All-Wood Joist/Truss									25				
Minimum R-Value Nonwood Joist/Truss Minimum R-Value	16 17		19 25	19 20		25 25	19		25	19 20		25 25	
Concrete Slab or Deck			NA	19		NA			NA				
Minimum R-Value Metal Purlin with Thermal Break	16						19			19		NA	
Minimum R-Value Metal Purlin without Thermal Break	17		25	20		30	20		30	20		30	
Minimum R-Value	17		Х	20		Х	20		Х	20		38	
Floor	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	
All-Wood Joist/Truss Minimum R-Value	4		11	4		11	4		11	4		11	
Nonwood Joist/Truss Minimum R-Value	4		11	4		11	4		11	4		11	
Concrete Slab or Deck Minimum R-Value	2		NA	2		NA	2		NA	2		NA	
Slab Edge or Basement Walls	Insulation			Insulation				Insulation		Insulation			
Minimum R-Value		0			0			0			0		

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material.
- (c) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more, lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.</p>

- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

#### Climate Zone 4b

Envelope Component		Fenestration % Window-Wall			m Fenestratio			Fenestration		Very High Fenestration Area (40%-50% Window-Wall Ratio)			
M-II- (- 1)	No Framing	Metal	Wood or Framing	No	Metal	Wood	No	Metal	Wood	No	Metal	Wood	
Walls (a,b) Framed Minimum Cavity R-Value (c)	Framing o	or Framing	or Framing 11	Framing o	or Framing of	or Framing 11	Framing o	or Framing of	or Framing	Framing NA	or Framing	or Framing 11	
Any Spacing Minimum Continuous R-Value (d)	NA	0	0	NA	0	0	NA	0	0	NA	3	0	
CMU, 8 in. or greater Minimum Cavity R-Value with Integral Insulation(e) Minimum Continuous R-Value	NA 0	0	0	NA 0	0	0	NA 0	0	0	NA	0	0	
All Other Minimum Continuous R-Value  Minimum Cavity R-Value	0 NA	0	0	0 NA	0 11	0 11	NA	<u> </u>	0 11	0 NA	0 11	0 11	
Masonry Walls(f) Minimum Continuous R-Value	0	0	0	5	0	0	5	0	0	5	0	0	
Windows	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	
Maximum Solar Heat Gain Coefficient	Any	Any	Any	0.6	0.7	Any	0.4	0.5	0.6	0.4	0.5	0.6	
Maximum U-Factor	Any	Any	Any	Any	Any	Any	0.7	0.7	0.7	0.7	0.7	0.7	
Skylight (Limit 3% of Roof Area)													
Maximum U-Factor		1			1			1			1		
	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	
Roof All-Wood Joist/Truss	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
Minimum R-Value	16		19	16		19	16		19	16		19	
Nonwood Joist/Truss Minimum R-Value	17		25	17		25	17		25	17		25	
Concrete Slab or Deck Minimum R-Value	16		NA	16		NA	16		NA	16		NA	
Metal Purlin with Thermal Break Minimum R-Value	17		25	17		25	17		25	17		25	
Metal Purlin without Thermal Break  Minimum R-Value	17		x	17		X	17		х	17		30	
iviiiiiiiiiii N-value	! !			-		-							
Floor	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	
All-Wood Joist/Truss Minimum R-Value	4		11	4		11	4		11	4		11	
Nonwood Joist/Truss Minimum R-Value	4		11	4		11	4		11	4		11	
Concrete Slab or Deck  Minimum R-Value	1		NA NA	4		NA NA	4		NA NA	4		NA NA	
William IV Value			IVA	7		IUA			IVA			IVA	
Slab Edge or Basement Walls	Insulation			Insulation				Insulation		Insulation			
Minimum R-Value		0			0			0			0		

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Where values are shown for both cavity and continuous insulation, both requirements must be met.
- (c) Cavity insulation is insulation between framing members or furring strips and does not refer to integral insulation in CMUs.
- (d) Continuous insulation is insulation that is continuous across structural members, and its effectiveness is undimished by compression or bridging.
- (e) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material. Minimum R-values are in addition to insulation in CMU voids.
- (f) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.</p>
- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

#### Climate Zone 6b

Envelope Component	(0-10%	Fenestratior Window-Wall			ım Fenestratio 25% Window-Wal			Fenestration		Very High Fenestration Area (40%-50% Window-Wall Ratio)			
	No .	Metal	Wood	No .	Metal	Wood	No .	Metal	Wood	No	Metal	Wood	
Walls (a)	Framing of	•	or Framing			or Framing			or Framing	Framing		or Framing	
Framed Minimum R-Value	NA	11	11	NA	11	11	NA	11	11	NA	11	11	
Any Spacing CMU, 8 in. or greater Minimum R-Value	0	0	0	0	0	0	0	0	0	0	0	0	
with Integral Insulation(b)	U	U	U	I "	U	U	U 0	U	U	"	U	U	
All Other Minimum R-Value	0	0	0	5	11	11	5	11	11	5	11	11	
Masonry Walls(c)	1 "	Ū	٠	1 3	•••		,			,	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	
				<u> </u>			<u> </u>						
	No	3.25	3.5	No	3.25	3.5	No	3.25	3.5	No	³.25	3.5	
Windows	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	
Maximum Solar Heat Gain Coefficient													
	Any	Any	Any	0.6	0.7	Any	0.5	0.6	0.7	0.4	0.5	0.7	
Maximum U-Factor		_											
	Any	Any	Any	Any	Any	Any	0.7	0.7	0.7	0.7	0.7	0.7	
Skylight (Limit 3% of Roof Area)													
,													
Maximum U-Factor		1			1			1			1		
	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	
Roof	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
All-Wood Joist/Truss													
Minimum R-Value	16		19	16		19	19		25	19		25	
Nonwood Joist/Truss Minimum R-Value	17		25	17		25	20		25	20		25	
Concrete Slab or Deck	- ''		25			25	20		25	20		25	
Minimum R-Value	16		NA	16		NA	19		NA	19		NA	
Metal Purlin with Thermal Break	- 10		IVA			TVA .			NA.	- 10		NA.	
Minimum R-Value	17		25	17		25	20		30	20		30	
Metal Purlin without Thermal Break													
Minimum R-Value	17		X	17		X	20		Х	20		38	
	Continuous		Cavity	Continuous		Cavity	Continuous		Cavity	Continuous		Cavity	
Floor	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
	Ilisulation	OI .	msulation	Ilisulation	OI .	msulation	msulation	OI .	msulation	msulation	OI .	moulation	
All-Wood Joist/Truss Minimum R-Value	6		11	6		11	6		11	6		11	
Nonwood Joist/Truss	- 0		- ''	- 6		11	- 6		- ''	- 6		- 11	
Minimum R-Value	6		11	6		11	6		11	6		11	
Concrete Slab or Deck				_ <u> </u>									
Minimum R-Value	6		NA	6		NA	6		NA	6		NA	
Slab Edge or Basement Walls	Insulation			Insulation				Insulation		Insulation			
Minimum R-Value		0			0			0			0		

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material.
- (c) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more, lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.</p>

- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

#### Climate Zone 7b

Envelope Component		Fenestration % Window-Wall			ım Fenestratio 25% Window-Wal			Fenestration		Very High Fenestration Area (40%-50% Window-Wall Ratio)			
	No	Metal	Wood	No	Metal	Wood	No	Metal	Wood	No	Metal	Wood	
Walls (a,b)	Framing o		or Framing		J	or Framing	Framing o	•	or Framing	Framing		or Framing	
Framed Minimum Cavity R-Value (c)	NA NA	11	11 0	NA	11	11	NA	13	13	NA	13	13	
Any Spacing Minimum Continuous R-Value (d)  CMU, 8 in. or greater Minimum Cavity R-Value	NA NA	0	0	NA NA	0 11	0 11	NA NA	0 11	0 11	NA NA	3 11	0 11	
with Integral Insulation(e) Minimum Continuous R-Value	0	0	ő	5	0	0	5	0	0	5	0	0	
All Other Minimum Cavity R-Value	NA NA	11	11	NA NA	11	11	NA NA	13	11	NA NA	13	11	
Masonry Walls(f) Minimum Continuous R-Value	5	0	0	5	0	0	6	0	0	6	0	0	
	No	3.25	3.5	No	3.25	3.5	No	3.25	3.5	No	3.25	<b>3</b> .5	
Windows  Maximum Solar Heat Gain Coefficient	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	
	Any	Any	Any	0.5	0.6	0.7	0.4	0.5	0.6	0.3	0.4	0.5	
Maximum U-Factor	Any	Any	Any	0.7	0.7	0.7	0.7(g)	0.7(g)	0.7(g)	0.7	0.7	0.7	
Skylight (Limit 3% of Roof Area)													
Maximum U-Factor		0.8			0.8			0.8			0.8		
	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	
Roof	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
All-Wood Joist/Truss  Minimum R-Value	14		19	19		25	19		25	19		25	
Nonwood Joist/Truss													
Minimum R-Value	15		19	20		25	20		25	20		25	
Concrete Slab or Deck Minimum R-Value	14		NA	19		NA	19		NA	19		NA	
Metal Purlin with Thermal Break	'		NA.	13		NA.	13		146	- 13		NA.	
Minimum R-Value	15		25	20		30	20		30	20		30	
Metal Purlin without Thermal Break  Minimum R-Value	15		x	20		х	20		х	20		38	
	Continuous		Cavity	Continuous		Cavity	Continuous		Cavity	Continuous		Cavity	
Floor	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
All-Wood Joist/Truss  Minimum R-Value	7		11	7		11	7		11	7		11	
Nonwood Joist/Truss				-			-						
Minimum R-Value Concrete Slab or Deck	8		11	8		11	8		11	8		11	
Minimum R-Value	8		NA	8		NA	8		NA	8		NA	
Slab Edge or Basement Walls		Insulation		Insulation				Insulation		Insulation			
Minimum R-Value		0			0			0			0		

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Where values are shown for both cavity and continuous insulation, both requirements must be met.
- (c) Cavity insulation is insulation between framing members or furring strips and does not refer to integral insulation in CMUs.
- (d) Continuous insulation is insulation that is continuous across structural members, and its effectiveness is undimished by compression or bridging.
- (e) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material. Minimum R-values are in addition to insulation in CMU voids.
- (f) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.</p>
- (g) For buildings over 3 stories in height, the maximum U-factor shall be 0.60.
- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

#### **Climate Zone 8**

Envelope Component			Fenestration Window-Wall			um Fenestratio -25% Window-Wal			Fenestration		Very High Fenestration Area (40%-50% Window-Wall Ratio)			
		No	Metal	Wood	No	Metal	Wood	No	Metal	Wood	No	Meta		Wood
Walls (a)		Framing or	•	or Framing			or Framing	Framing o		or Framing	Framing	or Framir	g or	Framing
Framed Any Spacing	Minimum R-Value	NA	11	11	NA	13	11	NA	13	11	NA	13		11
CMU, 8 in. or greater with Integral Insulation(b)	Minimum R-Value	5	11	11	5	11	11	5	11	11	5	11		11
All Other Masonry Walls(c)	Minimum R-Value	5	11	11	6	13	11	6	13	11	6	13		11
Windows		No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	No Projection	<sup>3</sup> .25 Projecti		3.5 Projection
Maximum Solar H	leat Gain Coefficient	Any	Any	Any	0.5	0.6	0.7	0.4	0.5	0.6	0.3	0.4		0.5
	Maximum U-Factor	Any	Any	Any	0.7	0.7	0.7	0.5	0.5	0.5	0.5	0.5		0.5
Skylight (Limit 3% of Roof Are	a)													
	Maximum U-Factor		0.8			0.8			0.8			0.8		
Roof		Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous	or		Roof Cavity Insulation
All-Wood Joist/Truss														
	Minimum R-Value	14		19	19		25	19		25	19			25
Nonwood Joist/Truss	Minimum R-Value	15		19	20		25	20		25	20			25
Concrete Slab or Deck	Minimum R-Value	14		NA	19		NA	19		NA	19			NA
Metal Purlin with Thermal Break	Minimum R-Value	15		25	20		30	20		30	20			30
Metal Purlin without Thermal Break	Minimum R-Value	15		х	20		х	20		х	20			38
		Continuous		Cavity	Continuous		Cavity	Continuous		Cavity	Continuous			Cavity
Floor		Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or		Insulation
All-Wood Joist/Truss	Minimum R-Value	9		11	9		11	9		11	9			11
Nonwood Joist/Truss	Minimum R-Value	10		11	10		11	10		11	10			11
Concrete Slab or Deck	Minimum R-Value	9		NA NA	9		NA NA	9		NA NA	9			NA
Slab Edge or Basement Walls		Insulation			Insulation				Insulation					
DIAD LUGE OF DASEMENT WAIIS	Minimum R-Value		0			0			Insulation 0			0		
Notos:								-						

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material. Minimum R-values are in addition to insulation in CMU voids.
- (c) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.

- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

#### Climate Zone 10b

Envelope Component	(0-10%	Fenestratior 6 Window-Wall			ım Fenestratio 25% Window-Wal			Fenestration		Very High Fenestration Area (40%-50% Window-Wall Ratio)			
Malla (a)	No Framing or	Metal r Framing	Wood or Framing	No Framing o	Metal or Framing o	Wood or Framing	No Framing o	Metal or Framing	Wood or Framing	No Framing	Metal or Framing	Wood or Framing	
Walls (a)	_	•	_			_					•		
Framed Minimum R-Value Any Spacing	NA	11	11	NA	11	11	NA	11	11	NA	11	11	
CMU, 8 in. or greater Minimum R-Value	5	11	11	5	11	11	5	11	11	5	11	11	
with Integral Insulation(b)							,						
All Other Minimum R-Value	5	11	11	5	11	11	5	11	11	5	11	11	
Masonry Walls(c)													
		3.25	3.5		3.25	3.5		3.25	3.5		3.25	³.5	
NAC - 1	No		3.5	No		3.5	No		3.5	No			
Windows	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	
Maximum Solar Heat Gain Coefficient	1 .									1			
Maximum U-Factor	Any	Any	Any	0.5	0.6	0.7	0.4	0.5	0.6	0.3	0.4	0.5	
Maximum O-ractor	Any	Any	Any	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	
	Ally	Ally	Any	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Skylight (Limit 3% of Roof Area)													
Maximum U-Factor		0.8			0.8			0.8			0.8		
Waximum 6 Factor		0.0			0.0			0.0			0.0		
	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	
Roof	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
All-Wood Joist/Truss	modiation	<u>.</u>	modiation	caiation	<u>.</u>	mountaion	modiation	0.	modianon	modiation	<u>.</u>	modiation	
Minimum R-Value	17		19	19		25	19		25	19		25	
Nonwood Joist/Truss			10	- 10						- 10			
Minimum R-Value	18		25	20		25	20		25	20		25	
Concrete Slab or Deck													
Minimum R-Value	17		NA	19		NA	19		NA	19		NA	
Metal Purlin with Thermal Break													
Minimum R-Value	18		30	20		30	20		30	20		30	
Metal Purlin without Thermal Break Minimum R-Value	18		x	20		х	20		х	20		30	
Minimum K-Value	10		^			^	20		^	20		30	
	Continuous		Cavity	Continuous		Cavity	Continuous		Cavity	Continuous	•	Cavity	
Floor	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
All-Wood Joist/Truss													
Minimum R-Value	12		19	12		19	12		19	12		19	
Nonwood Joist/Truss													
Minimum R-Value	13		19	13		19	13		19	13		19	
Concrete Slab or Deck	13		NA	13		NA	13		NA	12		NA	
Minimum R-Value	13		NA	13		NA	13		NA	13		NA	
Slab Edge or Basement Walls	Insulation			Insulation				Insulation		Insulation			
Minimum R-Value		0			0			0			0		

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material. Minimum R-values are in addition to insulation in CMU voids.
- (c) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.

- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

#### Climate Zone 13b

Envelope Component		Fenestration % Window-Wall			ım Fenestratio 25% Window-Wall			Fenestration 0% Window-Wal		Very High Fenestration Area (40%-50% Window-Wall Ratio)			
	No .	Metal	Wood	No .	Metal	Wood	No	Metal	Wood	No .	Metal	Wood	
Walls (a,b)	Framing o		or Framing		or Framing o	•	Framing o	•	or Framing	Framing		or Framing	
Framed Minimum Cavity R-Value (c)	NA NA	13 0	11 0	NA NA	13 0	11	NA NA	13 0	11	NA NA	13 7	13	
Any Spacing Minimum Continuous R-Value (d)  CMU, 8 in. or greater Minimum Cavity R-Value	NA NA	11	11	NA NA	11	0 11	NA NA	11	0 11	NA NA		3 11	
with Integral Insulation(e) Minimum Continuous R-Value	5 5	0	0	5 5	0	0	5 5	0	0	5	0	0	
All Other Minimum Cavity R-Value	NA NA	11	11	NA NA	11	11	NA.	11	11	NA NA	11	11	
Masonry Walls(f) Minimum Continuous R-Value	5	0	0	5	0	0	5	0	0	5	0	0	
Windows	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	No Projection	3.25 Projection	3.5 Projection	
Maximum Solar Heat Gain Coefficient		•	,		•	,			,	-			
Maximum U-Factor	Any	Any	Any	0.5	0.6	0.7	0.4	0.5	0.6	0.4	0.5	0.6	
Maximum 0-1 actor	Any	Any	Any	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	
Skylight (Limit 3% of Roof Area)													
Maximum U-Factor		0.8			0.8			0.8			0.8		
	0		Df Oit	0		Dark Carrier	0		Da of Consider	0		Da of Coultry	
Roof	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	
All-Wood Joist/Truss  Minimum R-Value	18		25	19		25	23		30	23		30	
Nonwood Joist/Truss Minimum R-Value	19		25	20		25	24		30	24		30	
Concrete Slab or Deck Minimum R-Value	18		NA	19		NA	23		NA	23		NA	
Metal Purlin with Thermal Break													
Minimum R-Value  Metal Purlin without Thermal Break	19		30	20		30	24		Х	24		38	
Minimum R-Value	19		х	20		х	24		х	24		49	
Floor	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	
All-Wood Joist/Truss Minimum R-Value	17		19	17		19	17		19	17		19	
Nonwood Joist/Truss	<u>'</u>			<u> </u>			<u> </u>			· · ·			
Minimum R-Value Concrete Slab or Deck	17		25	17		25	17		25	17		25	
Minimum R-Value	17		NA	17		NA	17		NA	17		NA	
Slab Edge or Basement Walls	Insulation			Insulation				Insulation		Insulation			
Minimum R-Value		0			0			8			8		

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Where values are shown for both cavity and continuous insulation, both requirements must be met.
- (c) Cavity insulation is insulation between framing members or furring strips and does not refer to integral insulation in CMUs.
- (d) Continuous insulation is insulation that is continuous across structural members, and its effectiveness is undimished by compression or bridging.
- (e) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material. Minimum R-values are in addition to insulation in CMU voids.
- (f) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.</p>
- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

#### Climate Zone 14a

Envelope Component		Fenestration % Window-Wall			m Fenestratio			Fenestration		Very High Fenestration Area (40%-50% Window-Wall Ratio)			
Melle (- L)	No Framing o	Metal r Framing	Wood or Framing	No Framing o	Metal or Framing o	Wood or Framing	No Framing o	Metal	Wood or Framing	No	Metal	Wood or Framing	
Walls (a,b) Framed Minimum Cavity R-Value (c)	NA NA	13	or Framing 11	NA NA	13	11	NA NA	13	or Framing 11	NA	13	or Framing 11	
Any Spacing Minimum Continuous R-Value (d)	NA	3	0	NA	3	0	NA	3	0	NA	3	0	
CMU, 8 in. or greater Minimum Cavity R-Value with Integral Insulation(e) Minimum Continuous R-Value	NA 5	11 0	11 0	NA 5	11 0	11 0	NA 5	11 0	11 0	NA 5	11 0	11 0	
All Other Minimum Cavity R-Value	NA	U	11	NA	U	11	NA	U 	11	NA	11	11	
Masonry Walls(f) Minimum Continuous R-Value	5	0	0	5	0	0	5	0	0	5	0	0	
	No	3.25	3.5	No	3.25	3.5	No	3.25	3.5	No	3.25	3.5	
Windows  Maximum Solar Heat Gain Coefficient	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	Projection	
	Any	Any	Any	0.5	0.6	0.7	0.4	0.5	0.6	0.4	0.5	0.6	
Maximum U-Factor	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	
Skylight (Limit 3% of Roof Area)													
Maximum U-Factor		0.8			0.8			0.8			0.8		
	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	Continuous		Roof Cavity	
Roof	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
All-Wood Joist/Truss Minimum R-Value	17		19	19		25	23		30	23		30	
Nonwood Joist/Truss  Minimum R-Value	18		25	20		25	24		30	24		30	
Concrete Slab or Deck  Minimum R-Value	17		NA	19		NA	23		NA	23		NA	
Metal Purlin with Thermal Break													
Minimum R-Value Metal Purlin without Thermal Break	18		30	20		30	24		Х	24		38	
Minimum R-Value	18		х	20		х	24		х	24		38	
	Continuous		Cavity	Continuous		Cavity	Continuous		Cavity	Continuous		Cavity	
Floor	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	Insulation	or	Insulation	
All-Wood Joist/Truss Minimum R-Value	18		25	18		25	18		25	18		25	
Nonwood Joist/Truss Minimum R-Value	19		25	19		25	19		25	19		25	
Concrete Slab or Deck			NA NA				-		NA NA			-	
Minimum R-Value	19		NA	19		NA	19		NA	19		NA	
Slab Edge or Basement Walls		Insulation			Insulation			Insulation			Insulation		
Minimum R-Value		0			8			8			8		

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Where values are shown for both cavity and continuous insulation, both requirements must be met.
- (c) Cavity insulation is insulation between framing members or furring strips and does not refer to integral insulation in CMUs.
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- (f) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.</p>
- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.